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## NOTICE OF ALLOWANCE AND FEE(S) DUE

25281 7590 03/14/2008

DICKE, BILLIG & CZAJA  
FIFTH STREET TOWERS  
100 SOUTH FIFTH STREET, SUITE 2250  
MINNEAPOLIS, MN 55402

EXAMINER

DESTA, ELIAS

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 03/14/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,461	09/18/2006	Heinz Mattes	1431.147.101/FIN 501 PCT/	3748

TITLE OF INVENTION: DEVICE AND METHOD FOR TESTING INTEGRATED CIRCUITS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	06/16/2008

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

25281 7590 03/14/2008

**DICKE, BILLIG & CZAJA**  
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MINNEAPOLIS, MN 55402

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,461	09/18/2006	Heinz Mattes	1431.147.101/FIN 501 PCT/	3748

TITLE OF INVENTION: DEVICE AND METHOD FOR TESTING INTEGRATED CIRCUITS

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nonprovisional	NO	\$1440	\$300	\$0	\$1740	06/16/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
DESTA, ELIAS	2857	702-118000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability**

Application No.

10/566,461

Examiner

ELIAS DESTA

Applicant(s)

MATTES ET AL.

Art Unit

2857

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 12/19/2007.
2. ☒ The allowed claim(s) is/are 21,22,24,26-34,36,42,43 and 45-47.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

/Edward Raymond/  
Primary Examiner, Art Unit 2857

## Detailed Action

### Response to Amendment

1. Applicant's arguments (see amendment filed on 12/19/2007) with respect to claims 21, 23-27, 31-33, 35-42 and 44 have been fully considered and are accepted. The rejection of claims 21, 22, 25, 27-30, 35-41 and 44 has been withdrawn. The Examiner acknowledges the cancellation of claims 23, 25, 35, 37-41 and 44, and the addition of new claims 45, 46 and 47. The objection to claims 33 and 34 is withdrawn. No outstanding issue remains.

### Allowance

2. Claims 21, 22, 24, 26-34, 36, 42, 43 and 45-47. The following is an examiner's statement of reasons for allowance:

In reference to claims 21, 26, 27, 31, 32, 33, 42 and 45: *Folkesson et al.* (IEEE Article, 'Modeling of Dynamic Errors in Algorithmic A/D converters', hereon *Folkesson*) teaches a test device for testing circuits (such as A/D converter) (see *Folkesson*, page 455, Introduction). The test arrangement comprises: a precision signal generator, configured for generating a test signal and coupled to an input contact for coupling to an input of an integrated circuit (see *Folkesson*, page 457, section 5, 'Measurements and simulations'); a reference signal generator configured for generating a reference signal (see *Folkesson*, page 455, Fig. 1); and a comparator unit (see *Folkesson*, page 455, Fig. 2).

*Fan et al.* (U.S. Patent 6,703,885, hereon *Fan*) teaches a trimmer device where a reference signal of a target circuit (precision signal generator) is compared with a test signal, and

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a binary count output is generated according to result of a comparison, the counter coupled to the switch device and operable so as to generate a binary count output that is used to selectively turn on or turn off the transistor units of the switch device (see Fan, column 2, lines 61-67).

Noda (U.S. Patent 5,870,042) teaches a test device comprises two reference signal generators where the first reference signal generator is configured for generating a lower reference signal (see Noda, Fig. 7, SP 11) and a second reference signal generator configured for generating an upper reference signal (see Fig. 7, SP 9), a first comparator unit, which is connectable to the first reference signal generator, a second comparator unit, which is connectable to the second reference signal generator (see Noda, Fig. 2 and column 3, lines 60-67). These are the states of the art.

The primary reason for the allowance of claim 21 the inclusion of the limitation: a test device having a reference signal generator which has “a calibration line and reference line, the comparator unit being connected to the calibration line and to the reference line of the reference signal generator, comparator unit having calibration unit, and the comparator unit also being operable in a calibration mode configured such that the switching properties of the comparator unit are adjustable by the calibration unit by means of the signal values of the calibration line which are present at the comparator unit and by means of the reference line.”

The primary reason for the allowance of claim 26 is the inclusion of the limitation: a test device having the “comparator having two inputs and an output, the first input of the comparator being coupled the reference line of the reference signal generator, the second input of the comparator being coupled to the calibration line of the reference signal generator and the connecting line of its input contact, the output of the comparator being coupled to the calibration

unit and to the precession signal generator and the switching properties of the calibration unit being adjustable by the comparator.”

The primary reason for the allowance of claim 27 is the inclusion of the limitation: a test device having “a decision logic unit [which] is coupled to the comparator unit and which is [also] configured such that control signals are generated for the precision signal generator from the output signals of the comparator unit.”

The primary reason for the allowance of claim 31 is the inclusion of the limitation: a test device having “a load board for receiving at least one needle card for testing integrated circuits and having at least one test receptacle for testing integrated circuits and for connecting a handler to a tester of integrated circuits, the load board having a test device.”

The primary reason for the allowance of claim 32 is the inclusion of the limitation: a test device having “...a precision signal generator and the reference signal generator being formed on the tester, and the comparator unit with the calibration unit being arranged on the load board, adjacent to the input contacts for the integrated circuit.”

The primary reason for the allowance of claim 33 is the inclusion of the limitation: “...providing a tester having a load board configured for receiving a plurality of needle cards for testing integrated circuit and for connecting a handler to a tester of integrated circuits and which is equipped with plurality of test receptacles for testing integrated circuits ....and carrying out a test mode having [a] process ... generation of a test signal by a precision signal generator and application of the test signal to the integrated circuit; generation of at least one reference signal by the reference signal generator and application of the reference signal/reference signals to the comparator units; comparison of the test signal with respective reference signal by the

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comparator units; [and] turning-off the precision signal generator by one of the comparator units if the test signal exceeds or falls below the reference signal.”

The primary reason for the allowance of claim 42 is the inclusion of the limitation: a test device having “... first and second signal generator each having a calibration line and a reference line, each comparator unit being connected to the calibration line and to the reference line of the relevant reference signal generator, each comparator unit having a calibration unit, and the comparator unit also being operable in calibration mode configured such that the switching properties of the comparator unit are adjustable by the calibration unit by means of the signal values of the calibration line which are present at the comparator unit and by means of the reference line.”

The primary reason for the allowance of claim 45 is the inclusion of the limitation: “...a precision signal generator, configured for generating a test signal and coupled to at least two input contacts for coupling to an input of an integrated circuit ....and at least on comparator unit for each input contact, the comparator unit being operable in a test mode and being configured such that the test signal is compared with the reference signal and the precision signal generator can be turned off by the comparator unit if the test signal exceeds or falls below the reference signal.”

It is these limitations, as recited in combination with the dependent claims 22, 24, 28-30, 34, 36, 43, 46 and 47 which are found in each of the claims but are not found, taught or suggested in the prior art of record, that makes the claims allowable over the prior art.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIAS DESTA whose telephone number is (571)272-2214. The examiner can normally be reached on M-Fri (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elias Desta  
Examiner  
Art Unit 2857

- E.D.

- February 25, 2008

Application/Control Number: 10/566,461  
Art Unit: 2857

Page 7

/Edward Raymond/  
Primary Examiner, Art Unit 2857